

M/035/012

Agenda for
October 3, 1991 Meeting
with
Kennecott and Division of Oil, Gas and Mining

I. Discussion of agreements made during May 10, 1991 meeting.

1. What is the status of maps? - will do map 400 scale 1:24,000
2. What is the status of Kennecott's topsoiling program?
3. Pit closure/stabilization plan.

II. Items which were not discussed at May 10, 1991 meeting.

1. Evaluation of waste dump materials.
2. Design of future and current waste dumps.
3. This years reclamation plan status.

III. Plan Revisions and Amendments.

1. Morton Salt acquisition tailings pond expansion. - RD doesn't know what's going to happen
2. EPA clean-up activities.

Kenndisc



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangert
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

May 24, 1991

Ms. Cindy Emmons
Director, Environmental Affairs
Kennecott Utah Copper
P.O. Box 525
Bingham Canyon, Utah 84006-0525

Dear Ms. Emmons:

Re: Meeting Between Kennecott and Division Staff on May 10, 1991, M/035/002,
Salt Lake County, Utah

The Division would like to thank you and Mr. Greg Fauquier for taking the time to meet with Division staff last Friday May 10th. This letter is written as a follow-up and summary to the discussions we initiated during this last meeting. The following are items that were discussed and the Division's interpretation of the agreements reached relative to each item:

① **Maps** - We discussed the development of a set of maps which would provide an accurate up-to-date description of the Bingham Canyon mine site. We explained that the Division would like two sets of maps, one set at a large scale (1 inch = 500 to 600 feet), the other set at a smaller scale encompassing the entire site (1 inch = 50,000 or 100,000 inches). The maps will show areas disturbed by mining post May 1975 and areas which have been reclaimed or are under reclamation. Identification of pre-law disturbed areas that have not been subject to further mining impacts by Kennecott would also be helpful in clarifying Kennecott's ultimate reclamation liabilities.

by mid Nov. can have

② **Topsoil Salvage** - According to Mr. Fauquier, topsoil salvage is now being conducted in areas where the topsoil is accessible and salvage is safe. These areas are at the toe of the younger and/or smaller dumps. The older dumps, because of their size and height are more dangerous and expand at an extremely slow rate. Their current rate of expansion and the danger posed to soil salvage at their toe, due to uncertain dump stability, do not justify salvage, at this time. Kennecott has committed to continue topsoil salvage, in front of the smaller dumps and the larger

*could commit to in this year's annual submission March 1 1992
Annual report vs Annual plan*

dumps, when and where it is deemed safe and appropriate to do so. Also, Kennecott has committed to update the Division, in each year's annual report concerning active dumps, areas of soil salvage associated with these dumps, and stockpiles established or added to during salvage.

3. **Plan Revisions** - Kennecott is currently involved in, or proposing to develop areas of the Bingham Canyon mine site which would/could impact the final reclamation of these areas. Such changes include the removal of sediment materials from the Old Bingham Reservoir and the possible disposal of materials from Bingham Creek onto an area of the mine site. The Division would like a commitment from Kennecott to address these changes as plan amendments and follow through with the appropriate filing/notice requirements as explained in the Mineral's Rules. As promised, we have included a copy of our amendment and revision determination policy.

4. **Tailings Pond Stability** - Kennecott is currently reclaiming a 300-acre section of the Magna tailings pond, located at the southeast corner. According to Kennecott, the reclamation is being conducted to minimize the dust impact of the tailings facility on the town of Magna and is a normal part of the already approved operational and reclamation plan. The question of dike stability is something that the Division would like to have addressed for the eastern extent of the sediment pond. Kennecott has committed to send the Division current stability analyses of the east end of the tailings dike and supporting documentation regarding the current standard practice of step-back dike construction.

5. **Pit Boundary** - The boundary addressing the National Historic Designation for the pit is something that is still a point of some confusion. The Division has offered to contact the State Historical Society concerning the question of a specific boundary. You indicated that the boundary question may be irrelevant, if Kennecott can satisfy the state's post-mining concerns (public and environmental safety), associated with the pit. Kennecott has offered to produce a conceptual list of items which will be addressed during Kennecott's post-mine closure/stabilization plan for the pit. You also agreed to provide us with a copy of your most recent correspondence to State History regarding this issue.

We were unable to discuss several of the topics, which we had hoped to cover at the May 10th meeting. The Division would like to schedule another meeting with you to develop a fair resolution to these other questions. We would propose

• K can't make any real commitments at this time • will put together first concept of closure items



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

May 6, 1991

Ms. Cindy Emmons
Director, Environmental Affairs
Kennecott Utah Copper
P. O. Box 525
Bingham Canyon, Utah 84006-0525

Dear Ms. Emmons:

Re: Annual Reclamation Activities, May 1991 Board Presentation, Kennecott Utah Copper, Bingham Canyon Mine, M/035/002, Salt Lake County, Utah

This is to acknowledge our receipt of your April 23, 1991, letter and executive summary regarding Kennecott's Annual Reclamation Plan. We will schedule this item on the Briefing Agenda for the May 23, 1991, Board Hearing. The Division is in concurrence with the Plan and will advise the Board accordingly. I would recommend that you or your staff come prepared to make a brief presentation to the Board regarding the highlights of the plan.

We would like to meet with you again to continue our previous discussion regarding a number of outstanding reclamation concerns associated with the Bingham Canyon Mining and Reclamation Plan. We have scheduled May 8, 1991, 3:00 pm, at the Division's office, as the time and place for a follow up meeting. The agenda would include the following items for possible incorporation into Kennecott's permit:

1. The development of disturbed area maps depicting the current status of the Bingham Canyon Mine permit.
2. The salvaging of topsoil material from in front of the advancing waste dumps.
3. The establishment of a program which would evaluate waste dump material for the purpose of determining future reclamation potential.

Page 2
Ms. Cindy Emmons
M/035/002
May 6, 1991

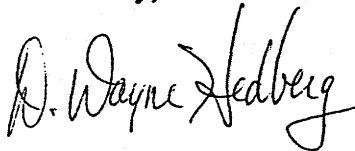
4. The status of the Bingham Pit's National Historic Register listing, with regard to any specific boundaries that may be applicable to ongoing and future expansion of the Pit.
5. The design of current and future waste dumps to accommodate/enhance better reclamation potential. This would involve length, height, and slope angle details.
6. Specific reclamation techniques to be used for the areas addressed in this year's Annual Reclamation Plan.
7. Areas associated with the Bingham Canyon Mine permit that are now being developed/changed (or proposed to be developed/modified), which could qualify as revisions or amendments to the approved Mining and Reclamation Plan (e.g., the Bingham Reservoir reconstruction and the reclamation of the Tailings Pond's SE corner).

On other matters, please provide us the following information at your earliest convenience:

1. Old Bingham Reservoir sediment analysis describing nutrient content, acid-base potential, SAR value, and leachable metals.
2. Stability analysis of the tailings pond's eastern boundary.

Thank you for your time and attention to these requests. Please contact me, Wayne Hedberg, or Holland Shepherd if you have any questions regarding the above information.

Sincerely,



for Lowell P. Braxton
Associate Director, Mining

jb
cc: Minerals staff
M035002.3

Page 3
Kennecott Utah Copper
M/035/002
May 24, 1991

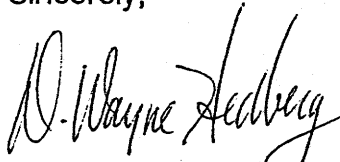
regrouping to continue our discussions during the week of June 24-28, 1991. The following items remain to be discussed:

1. The development of a program to evaluate waste dump materials. *APRIL June eval info on soils*
2. The design of future and current waste dumps to accommodate better reclamation. *PD- doesn't know exactly what happened will be to sum. up results in annual report. commitment to put together up out there*
3. Specific reclamation techniques to be used in this year's reclamation plan (test plot design, experimental testing of seed materials seeds, soil amendments, etc.) *summary of dumping procedures and # of thov.*

Please respond to each item of this letter as appropriate, either stating your concurrence or your disagreement and provide us with an acceptable date(s) for continuing our discussions. *place into annual provide status of all projects in plan by Nov. 15th*

Thank you for your cooperation and attention to these issues.

Sincerely,



D. Wayne Hedberg
Permit Supervisor/Hydrologist
Minerals Regulatory Program

jb
cc: Lowell Braxton
Minerals Staff
M035002.1



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

February 1, 1991

Ms. Cindy Emmons
Director, Environmental Affairs
Kennecott Utah Copper
P. O. Box 525
Bingham Canyon, Utah 84006-0525

Cindy

Dear Ms. Emmons:

Re: Kennecott/DOGM Joint Annual Reclamation Plan, Bingham Mine, M/035/002,
Salt Lake County, Utah

The Division would like to take this opportunity to commend Kennecott Utah Copper (KUC) on the efforts made in the preparation and implementation of the 1990 Joint Annual Reclamation Plan. It was certainly the most comprehensive and well formulated plan we have seen since the approval of the original 1978 Bingham Canyon permit. The Division hopes that KUC will continue in the same vein during the 1991 reclamation season with respect to the annual plan's development and implementation.

In order to fulfill the original intent of the reclamation agreement made between Kennecott and the Division, it will be necessary to maintain the dialogue between Division staff and Kennecott staff, regarding the type of reclamation and research to be developed for each reclamation year.

Pursuant to the agreement made in the original September 28, 1978 Reclamation Contract, the Division would like to establish a schedule for the implementation of paragraph 6. Paragraph 6 reads as follows: "The operator further agrees to work jointly with the Division in establishing annual reclamation plans for each forthcoming year. Said plan will be subject to review of the Board. Consideration will be given to the annual report of the previous year in establishing such plans".

I hope we can agree on the 1991 annual reclamation plan, such that we may mutually brief the Board at the March 28, 1991 meeting.

Page 2
Kennecott Utah Copper
M/035/002
February 1, 1991

To facilitate these objectives, we would like to schedule a meeting with you and your staff at your earliest convenience. Please contact me, Wayne Hedberg, or Holland Shepherd of my staff regarding an appropriate date for this meeting.

Thank you, in advance, for your continued cooperation and assistance. We look forward to working together with you on this project in the near future.

Sincerely,



Lowell P. Braxton
Associate Director, Mining

jb
cc: Dianne Nielson
Minerals Staff
M035002.4 "



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

DOGM
MINERALS PROGRAM
FILE COPY

January 16, 1991

Ms. Cindy Emmons
Director, Environmental Affairs
Kennecott Utah Copper
P. O. Box 525
Bingham Canyon, Utah 84006-0525

Dear Ms. Emmons:

Re: Outstanding Reclamation Issues, Bingham Pit, M/035/002, Salt Lake County, Utah

This letter is a follow-up to some of the outstanding issues concerning the Bingham Canyon Mining and Reclamation Plan (MRP). We initiated discussions on these topics by letter to Kennecott Utah Copper, dated September 5, 1989. The Division is seeking a timely resolution to the following issues:

1. On July 18, 1990, we sent a letter to Kennecott requesting information regarding the current National Historic Register (NHR) status for the Bingham Pit. Of concern is the effect that the continued expansion of the pit boundaries may have on its eligibility/listing. No response was ever received from your office in this regard. The Division would like to know what the NHR renewal status is for the pit.
2. The Division requested, in our September 5, 1989 letter, that well defined maps be developed showing all areas and the acreages impacted by the Bingham Canyon Mine, since the passage of the Utah Mined Land Reclamation Act. The maps should encompass all areas currently incorporated in Kennecott's MRP. The maps should delineate both active and inactive areas. Pre-law disturbed areas should also be identified where appropriate. We suggest that such maps be developed from current aerial photographs.

This request was addressed by Kennecott in a letter to the Division dated February 8, 1990. In that letter, Kennecott indicated that a map was currently being developed. What is the status of this map or maps?

Kennecott also indicated that an annual reclamation map would be developed for only portions of the site to be reclaimed during the year. Was it Kennecott's intention to generate only an annual map? The Division will require Kennecott to provide a map or maps covering the entire Bingham Pit site.

3. In our September 5, 1989 letter, we also asked Kennecott to initiate a program to identify areas of deleterious (or potentially deleterious) waste rock materials at the Bingham Canyon Mine. The objective being, to facilitate development of a successful reclamation plan for such areas at a future date. Has a program/evaluation been initiated? If so, what is the status of this program?
4. Our September 5, 1989 letter also requested that Kennecott look at the idea of initiating a selective dumping program for acid-based waste materials. The intent would be to isolate material having a high acid-generating exposure to air and water. This issue has not been addressed by Kennecott.
5. The question of topsoil salvage was also brought up in our September 5, 1989 letter. We asked that Kennecott address the lack of topsoil salvage in areas where the Bingham pit is being developed and at the base of the waste dumps, where the dumps are expanding. This question was addressed in a letter from Kennecott, dated February 8, 1990. Kennecott's response was that unsafe conditions, associated with the dumps, prevent the salvage of topsoil from the base of the dumps. The Division will require that Kennecott engineer a method, by which topsoil can be safely salvaged from these areas.

The Division would like to continue negotiations with Kennecott in resolving these concerns. We would like to arrange a meeting, or series of meetings with you and/or your designated staff, at your earliest convenience to discuss these outstanding issues. Please call me or Mr. Holland Shepherd, of the minerals staff, to schedule a

Page 3
Cindy Emmons
M/035/002
January 16, 1991

convenient time and place to work out a resolution to these concerns. Thank you for your cooperation and consideration of this request.

Sincerely,

A handwritten signature in cursive script, reading "D. Wayne Hedberg". The signature is written in dark ink and is positioned above the printed name and title.

D. Wayne Hedberg
Permit Supervisor

HWS/jb
cc: Lowell Braxton
Holland Shepherd
Tony Gallegos
M035002.2

Kennecott
Utah Copper
P.O. Box 525
Bingham Canyon, Utah 84006-0525
(801) 569-6555

Michael H. Gibson
Director, Environmental Affairs

RECEIVED
FEB 08 1990

M/035/002

DIVISION OF
OIL, GAS & MINING

Kennecott

February 8, 1990

Mr. Wayne Hedberg
State of Utah Dept. of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

Subject: Response to December 20, 1989 Letter from the Division
of Oil, Gas and Mining (DOGM)

Dear Mr. Hedberg:

This letter is in response to the items delineated in the above mentioned correspondence. We apologize for the delay in responding and will continue to communicate on the topics yet to be resolved.

The following items as they relate to your letter of reference (September 5, 1989) are addressed as follows:

1. The Kennecott Utah Copper (KUC) operations involve many broad scale reclamation projects. To this date the DOGM has not been made aware of many of them, and it appears has subsequently developed the impression that there is a lack of contemporaneous reclamation activities. To remedy this situation, we are developing a Reclamation Activities Plan for 1990 (as required in Item #6 of the original reclamation contract). It will be available by mid-February. The plan will list with a brief description each of the many reclamation projects scheduled for the coming year. A map(s) will accompany the project list. We would be pleased to present these materials to you and welcome your comments. I believe this plan will illustrate the current commitment toward reclamation activities.

(2.) KUC is currently developing a map showing the currently disturbed areas around the Bingham Operation. Although many areas have been disturbed for years and are not slated for current development, it is difficult to determine future mining plans over the life of the mine. We therefore would prefer to develop our yearly reclamation plans as described above, determining on a yearly basis which areas we can permanently take out of operation impact areas.

* (3.) KUC is currently developing, for inclusion in the 1990 Reclamation Activities Plan, an intensive study project plan for reclaiming acid mine spoils as are found at the Bingham Canyon Mine. The object of the program will be to demonstrate the ability to reclaim an acid spoils. The monitoring results will be on file and will be available for your review.

4. The 1990 Reclamation Activities Plan should satisfy this item. This plan will be introduced to DOGM each year prior to the reclamation season.

5. This item has been resolved.

(6.) We would like to comment that we are aware that with any new amendments or revisions, the topsoil question must be addressed. The subject of topsoil will be addressed for the scheduled expansion of the Copperton Concentrator (4th line addition).

We have reviewed the mining and waste dump procedure at this time in relation to topsoil salvage potential. Stripping operations at this time are on 1 1/2-1, 37° slopes and involve areas that have been historically fill deposits with small areas exposed as original ridges. On this terrain, topsoil salvage is not possible and may require a variance. The mine waste dump area presents additional problems concerning topsoil salvage. The dump slopes are 1,200 feet high and equipment cannot be safely operated below such slopes due to slides and natural sloughage which occurs at regular intervals.

Although topsoil salvage is an issue, we are and have made strides in mitigating the ongoing disturbance of the Bingham Canyon Mine. According to the summary of disturbed land since the permit approval, a total of 568 acres have been disturbed by mining and waste dump activities. This is an average of 51.63 acres per

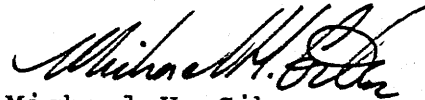
Mr. Wayne Hedberg
February 8, 1990
Page 3

year. Currently under development in our 1990 Reclamation Activities Plan are over 400 acres of reclamation this year alone. The Lark Tailings area will make up the majority of this year's work but many other projects are included.

We would be pleased to provide all the acreage information with the above-cited Reclamation Activities Plan next month.

We appreciate the opportunity to resolve these issues and look forward to the solutions to those items that are still evolving.

Very truly yours,



Michael H. Gibson
Director, Environmental Affairs

MHG:bt

cc: R. K. Davey
G. H. Boyce
B. D. Kale



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangertor

Governor

Dee C. Hansen

Executive Director

Dianne R. Nielson, Ph.D.

Division Director

355 West North Temple

3 Triad Center, Suite 350

Salt Lake City, Utah 84180-1203

801-538-5340

DOGM
MINERALS PROGRAM
FILE COPY

September 5, 1989

Mr. Michael Gibson
Director, Environmental Affairs
Kennecott Minerals Company
P.O. Box 525
Bingham Canyon, Utah 84006-0525

Dear Mr. Gibson:

Re: Reclamation Plan, Bingham Canyon Mine, Kennecott Minerals, M/035/002, Salt Lake County, Utah

The Division would like to thank you and your staff for accommodating us during our most recent visits to the Bingham Pit Mine on July 11, and August 23, 1989. With new individuals involved in the permitting on both ends, there is a lot to catch up on, and we appreciate your position and patience in this regard. This letter summarizes some of the topics/goals that were discussed on these past two visits. A list of some of these issues/concerns and our recommendations follow:

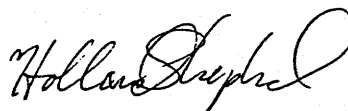
1. The Bingham pit operation does not, as yet, have a clearly defined reclamation plan for areas addressed in the original 1977, Notice of Intent and Mining and Reclamation Plan. The original plan left a lot up to future experimentation and reclamation technology, and made few definitive commitments. We now know a lot more about the reclamation potential at this site, mostly through the efforts of Mr. Paul Rokich. We would like to see these techniques implemented on a large scale at the Bingham site, via a well defined contemporaneous reclamation program.
2. We suggest that Kennecott develop a well defined map showing areas and acreages of the Bingham Canyon Mine site (areas relative to permit M/035/002) which will no longer be impacted by mining, and would be most eligible for contemporaneous reclamation.
3. We suggest that Kennecott develop a program, with input from the Division, to characterize the soil properties of the waste rock dumps and pit materials. This would require sampling a number of areas across the site. Such a program would be developed with the intent of generating a selective dumping program of pit materials, in a fashion most conducive to future revegetation. In other words the burial or isolation of high sulfide bearing materials would be built into the dumping program.

Page 2
Michael Gibson
Kennecott Minerals Company
M/035/002
September 5, 1989

4. Pursuant to the original commitments made in the 1978 Reclamation Agreement, Division personnel, in unison with Kennecott personnel, should schedule meetings this fall to discuss reclamation plans for the upcoming season(s). A major consideration for this plan would be the development of an extensive contemporaneous reclamation plan. Also, we would like to suggest the establishment of more vegetation plots on areas of particularly hostile materials.
5. Because the reclamation of the dump sites are a priority item, any discussion dealing with the revegetation of pit slopes will be postponed until more is known about the material in the pit and the final configuration of pit slopes. Kennecott currently has a variance from the 45 degree slope requirement (see August 21, 1989 letter, from the Division).
6. Please note, that for any new areas of disturbance, in particular areas on the Apex-West side associated with pit expansion, topsoil must be salvaged before development proceeds. Also topsoil salvage is necessary in association with waste dump expansion.

Please contact me or Scott Johnson/Permit Lead should you have questions or concerns regarding the content of this letter. Thank you for your time and consideration of the items listed above.

Sincerely,



Holland Shepherd
Reclamation Specialist

jb
Enclosure
cc: Lowell Braxton
Wayne Hedberg
Scott Johnson
MN5/118-119